AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) A method in a computer system for returning a stream to a task executing an operating system call that is blocked, the computer system having a processor with multiple streams, each stream for executing instructions of a task, the method comprising:

> under control of a thread of the task executing on a first stream, making an operating system call; and
>
> when the operating system call blocks,
>
> > under control of the operating system executing on a ~~first~~ second stream, invoking a function provided by the task to provide the second stream to the task;
> >
> > under control of the invoked function, executing instructions of the task on the ~~first~~ second stream; and
> >
> > under control of the operating system ~~executing on a second stream~~, notifying the task when the operating system call is complete.

2.   (Original) The method of claim 1 wherein the notifying includes invoking a function provided by the task using a stream of the operating system; and under control of that invoked function,

> indicating that the operating system call is complete; and
>
> invoking another operating system call to return the operating system stream to the operating system.

3.   (Original) The method of claim 1 wherein the executing of instructions on that stream includes

> indicating that a thread that invoked the operating system call is blocked; and
>
> executing another thread on that stream.

4.   (Currently Amended) A system for ~~returning~~ providing a stream to a task executing an operating system call that is blocked, the system having a processor with

multiple streams, each stream for executing instructions of a task, the system and comprising:

> a component that, under control of a thread of the task executing on a first stream, makes an operating system call that blocks;
>
> a component that, under control of the operating system executing on a second stream, invokes a function provided by the task to provide the second stream to the task;
>
> a component that, under control of the invoked function, executes instructions of the task on that the second stream; and
>
> a component that, under control of the operating system, notifies the task when the operating system call is complete.

5.   (Original) The system of claim 4 wherein the notification includes:

invoking a function provided by the task using a stream of the operating system; and

under control of that invoked function,

> indicating that the operating system call is complete; and
>
> invoking another operating system call to return the operating system stream to the operating system.

6.   (Original) The system of claim 4 wherein the instructions of the test on that stream include:

an indication that a thread that invoked the operating system call is blocked; and

execution of another thread on that stream.

7.   (Currently Amended)   A method in a computer system for assigning a processor resource stream to a thread of a task, the method comprising:

> under control of a thread of the task executing on a first processor stream, invoking an operating system call that will block and wait for the occurrence of an event; and

under control of the operating system, when the call is blocked, invoking a routine of the task so that the routine can assign ~~the~~ a second processor ~~resource~~ stream to another thread of the task;

wherein ~~the~~ a processor ~~resource is a~~ stream is a component of a processor that supports multiple streams, each stream for executing instructions of a task.

8.   (Cancelled)

9.   (Previously Presented) The method of claim 7 wherein the task registers the routine with the operating system prior to invoking the operating system call.

10.   (Original) The method of claim 7 including notifying the task when a operating system call completes.

11.   (Currently Amended) A system for assigning a processor ~~resource~~ stream to a thread of a task, the system comprising:

a component for under control of a thread of the task executing on a first processor stream, invoking an operating system call that will block and wait for the occurrence of an event; and

a component for, under control of the operating system, invoking a routine of the task so that the routine can assign ~~the~~ a second processor ~~resource~~ stream to another thread of the task;

wherein ~~the~~ a processor ~~resource is a~~ stream is a component of a processor that supports multiple streams, each stream for executing instructions of a task.

12.   (Cancelled)

13.   (Previously Presented) The system of claim 11 wherein the task registers the routine with the operating system prior to invoking the operating system call.

14.   (Original) The system of claim 11 including notifying the task when a operating system call completes.

15.   (Currently Amended) A method in a computer system for returning a stream to a user program, the computer system having an operating system and a processor with multiple streams, each stream for executing instructions of a task, the method comprising:

under control of the operating system,

when an operating system call in a stream will block, invoking a first function of a task that will return the stream to the task; and

when the operating system call becomes unblocked, invoking a second function of the task to notify the task that the operating system call is complete.

16.   (Original) The method of claim 15 wherein the operating system invokes the first function using the stream that will block.

17.   (Original) The method of claim 16 wherein invoking the first function returns the stream to the user program.

18.   (Original) The method of claim 17 wherein the user program selects a thread that is not blocked for execution on the stream.

19.   (Original) The method of claim 15 wherein the second function schedules for restarting a thread that was blocked on the operating system call that was blocked.

20.   (Original) The method of claim 15 wherein the second function returns a stream provided by the operating system.

21.   (Currently Amended) A method in a computer system for returning a stream to a user program, the computer system having an operating system and a processor with multiple streams, each stream for executing instructions of the user program, the method comprising:

under control of the user program, invoking an operating system call;

executing the operating system call in a user stream of the user program; and

under control of the operating system, when the operating system call will block,

when a thread making the operating system call is locked, waiting for the operating system call to become unblocked; and

when a thread making the operating system call is not locked,

invoking a first function of the user program that will return the stream to the ~~task~~user program;

under control of a trap handler routine, placing the thread in a blocked pool and selecting another thread to execute on the stream; and

when the operating system call becomes unblocked, invoking a second function of the user program in a stream of the operating system to notify the program that the operating system call is complete.

22.   (Original) The method of claim 21 wherein the second function schedules for restarting a thread that was blocked on the operating system call that was blocked.

23.   (Original) The method of claim 21 wherein the second function returns a stream provided by the operating system.